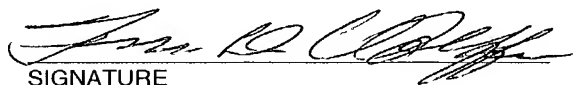


FORM PTO-1390U S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE (REV 10-2000) TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371		ATTORNEY'S DOCKET NO 000771.00030 U.S. APPLICATION NO. (If known, See 37 CFR 1.5) TBA 10/070390
INTERNATIONAL APPLICATION NO PCT/NL00/00632	INTERNATIONAL FILING DATE 8 September 2000	PRIORITY DATE CLAIMED 8 September 1999
TITLE OF INVENTION RELEASING UNDERCUT MOULDED CONTAINERS AFTER A THERMOFORMING PROCESS		
APPLICANT(S) FOR DO/EO/US Louis R. H. A. WILLEMSSEN		
Applicant herewith submits to the United State Designated/Elected Office (DO/EO/US) the following items and other information:		
<ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. 3. <input checked="" type="checkbox"/> This is an express request to promptly begin national examination procedures (35 U.S.C. 371(f)). 4. <input checked="" type="checkbox"/> The US has been elected by the expiration of 19 months from the priority date (PCT Article 31). 5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) <ol style="list-style-type: none"> a. <input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). b. <input checked="" type="checkbox"/> has been communicated by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). 6. <input checked="" type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371 (c)(2). 7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) <ol style="list-style-type: none"> a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input checked="" type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). 9. <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). 10. <input checked="" type="checkbox"/> An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). 		
Items 11-16 below concern other document(s) or information included:		
<ol style="list-style-type: none"> 11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 C.F.R. 1.97 and 1.98. 12. <input type="checkbox"/> An Assignment document for recording. A separate cover sheet in compliance with 37 C.F.R. 3.28 and 3.31 is included. 13. <input checked="" type="checkbox"/> A FIRST preliminary amendment. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment. 14. <input type="checkbox"/> A substitute specification. 15. <input type="checkbox"/> A change of power of attorney and/or address letter. 16. <input checked="" type="checkbox"/> Other items or information: International Search Report (ISA/EPO) 		

JC13 Rec'd PCT/PTO 06 MAR 2002

U.S. APPLICATION NO (If known, See 37 CFR 1.5) TBA 107070390		INTERNATIONAL APPLICATION NO PCT/NL00/00632		ATTORNEY'S DOCKET NO 000771.00030	
17. <input checked="" type="checkbox"/> The following fees are submitted: Basic National Fee (37 CFR 1.492(a)(1)-(5)):				CALCULATIONS	PTO USE ONLY
Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO				\$1,040.00	
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO				\$890.00	
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.455(a)(2)) paid to USPTO				\$740.00	
International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4)				\$710.00	
International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4)				\$100.00	
ENTER APPROPRIATE BASIC FEE AMOUNT =				\$890.00	
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				\$0.00	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total Claims	10 - 20 =	0	X \$18.00	\$0.00	
Independent Claims	1 - 3 =	0	X \$ 84.00	\$0.00	
Multiple dependent claims (if applicable)			X \$280.00	\$0.00	
TOTAL OF ABOVE CALCULATIONS =				\$890.00	
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated below above are reduced by 1/2.				\$0.00	
SUBTOTAL =				\$890.00	
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$0.00	
TOTAL NATIONAL FEE =				\$890.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property.				\$	
TOTAL FEES ENCLOSED =				\$	
+				Amount to be:	\$
				refunded	
				charged	\$
<p>a. <input type="checkbox"/> A check in the amount of \$_____ to cover the above fees is enclosed.</p> <p>b. <input checked="" type="checkbox"/> Please charge my Deposit Account No. 19-0733 in the amount of <u>\$890.00</u> to cover the above fees. A duplicate copy of this sheet is enclosed.</p> <p>c. <input type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 19-0733. A duplicate copy of this sheet is enclosed.</p>					
<p>NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.</p>					
<p>SEND ALL CORRESPONDENCE TO:</p> <p>Banner & Witcoff, Ltd. Eleventh Floor 1001 G Street, N.W. Washington, D.C. 20001-4597</p> <p>Telephone: (202) 508-9100</p>					
<p> SIGNATURE</p> <p>Franklin D. Wolfe Registration No. 19,724</p> <p>Date: March 6, 2002</p>					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Louis R. H. A. WILLEMSSEN

Serial No.: TBA

Filed: Herewith (March 6, 2002)

For: **RELEASING UNDERCUT MOULDED
CONTAINERS AFTER A
THERMOFORMING PROCESS**

Atty. Dkt. No.: 000771.00030

U.S. National Stage of

International Application No.:

PCT/NL00/00632

PRELIMINARY AMENDMENT

BOX PCT
Commissioner for Patents
Washington, D. C. 20231

Sir:

Prior to examination and calculation of any claim fees, please amend the instant application as follows:

IN THE ABSTRACT:

After the claims of the specification, insert the attached Abstract of the Disclosure.

IN THE SPECIFICATION:

Page 1, after the title of the invention, insert the following section:

CROSS REFERENCE TO RELATED APPLICATIONS:

This is a U.S. National Phase Application under 35 U.S.C. § 371 and applicant herewith claims the benefit of priority of PCT/NL00/00632 filed September 8, 2000, which was published Under PCT Article 21(2) in English, which claims priority to NL Patent Application No. 1013002, filed September 8, 1999, the entire contents of which are incorporated herein by reference.

Page 1, between the title of the application and the first paragraph, insert the section heading FIELD OF THE INVENTION.

Page 1, between lines 14 and 15, insert the section heading BACKGROUND OF THE INVENTION.

Page 1, between lines 30 and 31, insert the section heading BRIEF DESCRIPTION OF THE INVENTION.

Page 4, before line 1, insert the section heading BRIEF DESCRIPTION OF THE DRAWINGS.

Page 4, between lines 13 and 14, insert the section heading DETAILED DESCRIPTION OF THE INVENTION.

IN THE CLAIMS:

The claim amendments presented herein are based upon claims 1-7 as amended during prosecution of the PCT application, which amended claims are annexed to the International Preliminary Examination Report.

Please amend claim 5 and insert new claims 8-10 as follows:

5. (Amended) Device as claimed in claim 1, characterized in that at least one plate forming part of the lower mould is arranged connecting onto the segments and that the plate is provided with guide means for guiding the segments when they execute their movement between the first position and the second position.

8. (New) Device as claimed in claim 2, characterized in that at least one plate forming part of the lower mould is arranged connecting onto the segments and that the plate is provided with

guide means for guiding the segments when they execute their movement between the first position and the second position.

9. (New) Device as claimed in claim 3, characterized in that at least one plate forming part of the lower mould is arranged connecting onto the segments and that the plate is provided with guide means for guiding the segments when they execute their movement between the first position and the second position.

10. (New) Device as claimed in claim 4, characterized in that at least one plate forming part of the lower mould is arranged connecting onto the segments and that the plate is provided with guide means for guiding the segments when they execute their movement between the first position and the second position.

REMARKS

By this amendment, an Abstract has been inserted and multiple dependencies have been eliminated. Claims 1-10 are pending in this application. Examination on the merits of the instant application is respectfully requested.

Annexed hereto is a marked-up version of the amendments made in the instant amendment.

Respectfully submitted,



Franklin D. Wolffe
Reg. No. 19,724

Date: March 5, 2002

Banner & Witcoff, Ltd.
1001 G Street, N.W.
Washington, D. C. 20001-4597
(202) 508-9100

Attachments: 1. Marked-Up Version of Amendments Made
2. Abstract of the Disclosure

FDW:lab

ABSTRACT OF THE DISCLOSURE

The invention relates to a device for forming a number of thin-walled objects by means of a blow-moulding process from a layer of material which is deformable when heated, comprising: a lower mould with cavities (6) arranged therein, wherein the shape of each of the cavities (6) corresponds with the external shape of the objects to be formed; means for carrying the layer of material to be moulded onto the lower mould; supply means for supplying gas to the upper side of the lower mould; heating means for heating the lower mould; and mandrels movable into the cavities, wherein the lower mould is divided into a number of segments (5), wherein a number of segments (5) is placed around each cavity and the segments are movable in substantially radial direction between a first position, in which they form the wall of the cavity enclosed by the segments (5), and a second position in which an object (19) formed in the cavity can be moved out of the mould.

RELEASING UNDERCUT MOULDED CONTAINERS AFTER A THERMOFORMING PROCESS

The invention relates to a device for forming a number of thin-walled objects by means of a blow-moulding process from a layer of material which is deformable when heated, comprising:

- 5 - a lower mould with cavities arranged therein, wherein the shape of each of the cavities corresponds with the external shape of the objects to be formed;
- means for carrying the layer of material to be moulded onto the lower mould;
- 10 - supply means for supplying gas to the upper side of the lower mould;
- heating means for heating the lower mould;
- and
- mandrels movable into the cavities.

- 15 Such devices are generally known. They are used to form products such as containers for coffee milk, yoghurt, salads and numerous other products by a blow-moulding process. Used as a starting point here is a thin layer of material which is deformable when heated and
- 20 which is pushed fixedly into the cavity by means of compressed air, or pressurized air, is there cooled, whereby the shape is retained, and the completed product is then transported away.

- 25 The fact that product which is to a certain degree form-retaining must be removed from the mould imposes limitations in the prior art on the shape of the product.

- 30 There is however a need for more freedom in the choice of the shape of the product in order for instance to provide the product with additional functions.

 The present invention therefore has for its object to provide such a device which is suitable for manufacturing shapes which in the prior art cannot be released from the mould.

This objective is achieved in that the lower mould is divided into a number of segments, wherein a number of segments is placed around each cavity and the segments are movable in substantially radial direction
5 between a first position, in which they form the wall of the cavity enclosed by the segments, and a second position in which an object formed in the cavity can be moved out of the mould.

The mobility of the segments between a first
10 position, in which the moulding process takes place, and a second position, in which the rigid product can be removed from the mould, results in a greater freedom in choosing the shape of the products for finishing.

It is herein noted that it is indeed known in
15 injection mould production to use divisible moulds. Injection moulding is however a process wherein there is greater freedom and a much greater space is available for allowing movement of segments of the mould. In blow-moulding this is not the case; the blow-moulding process
20 limits the mobility of the mould to a great extent; as a result of the process, blow-moulded products are manufactured adjacently of each other, i.e. all with their upper surface in the same plane, wherein the movements of the mould, which in the process in question
25 is usually designated as lower mould, under the relevant plane are limited. It has therefore been assumed heretofore that it is impossible to provide a device for the blow-moulding process wherein the moulds are divisible for release of the finished product.

30 Certainly where small products are manufactured a blow mould will contain a relatively large number of cavities, so that the problem is made even more difficult.

According to another embodiment each cavity is
35 enclosed by at least three segments wherein the separating planes between the segments extend substantially perpendicularly of the upper surface of the lower mould, and each of the segments is drivable for

movement between the first and second position by a drive member.

Geometric considerations indicate the attraction of this embodiment; the distance between the first and the second position of the segments is limited, while sufficient freedom for release of the mould is still obtained.

According to an attractive embodiment each cavity is enclosed by four segments, wherein each of the segments is drivable by a linear drive member. The use of four segments results in a structure of paths extending perpendicularly of each other, which is structurally attractive.

When the four segments, which are situated in closer proximity to each other in the second position than in the first position, are coupled to a common drive element, there is a resulting simplification since the number of drive elements is reduced.

According to a particularly attractive embodiment the common drive element is adapted to execute a movement in a direction perpendicular to the direction of movement of the segments, and the common drive element is connected to the four segments by means of a coupling converting the direction of movement.

This configuration is particularly attractive structurally; a common drive element can be used to cause a movement in four different directions.

An even more attractive embodiment results when the coupling comprises four prismatic pins, each extending at the same angle relative to the direction of movement of the drive element, and the segments each comprise a channel into which the pins fit and the axis of which corresponds with the axis of the pins.

Provided this construction is manufactured with a sufficiently small tolerance, a structurally very simple configuration results.

Other attractive embodiments are specified in the remaining sub-claims.

The present invention will be elucidated hereinbelow with reference to the annexed figures, in which:

figure 1 is a partly broken-away perspective
5 view of a first embodiment of a device according to the present invention in a first position of the segments;

Figure 2 is a view corresponding to Figure 1 wherein the segments are situated in the second position;

Figure 3 shows a partly broken-away perspective
10 view of a second embodiment of a device according to the present invention; and

figure 4 shows a view corresponding to Figure 3 wherein the segments are situated in the second position.

Figure 1 shows a mould which is designated as a
15 whole with 1. The lower mould is formed by a base plate 2, an intermediate plate 3 and a top plate 4. A large number of segments 5 is arranged between top plate 4 and intermediate plate 3. Segments 5 are herein grouped around cavity 6.

20 In the present embodiment five segments are arranged around each cavity 6. The cavities correspond with relevant holes 7 arranged in top plate 4. Intermediate plate 3 and top plate 4 are mutually connected by connecting elements 8. Connecting elements 8
25 are placed such that they do not obstruct the movements of segments 5.

Channels 9 are arranged in segments 5 in order to drive segments 5 between the first position shown in figure 1, in which the forming of the product can take
30 place, and the position shown in figure 2 in which the product can be released from the moulds. Extending in the channels are pins 10, which are drawn in the present case with a rectangular cross-section but which may equally be embodied round, for instance with the shape of a circular
35 cylinder. Essential here is that they fit precisely into channels 9.

The pins 10 are all connected to a cylinder 11. Each of the cylinders 11 is connected to base plate 2. By

moving base plate 2 up or downward, the segments are therefore moved between their first position, shown in Figure 1, and second position, shown in Figure 2.

It will be apparent that it is possible to
5 employ other forms of drive, for instance an individual drive element instead of each of the cylinders 11. It is also possible to make use of other types of drive element, for instance lever systems or of systems provided with profiled cam discs.

10 It will of course be apparent that a form of drive must be chosen which fits into the limited space available.

This embodiment also has ejector elements. The ejector elements are formed by stamps 12 which are
15 provided on their underside with a pin 13, wherein a spring 14 is arranged between the underside of pin 13 and base plate 2. When plate 2 is moved upward in order to carry segments 5 from the first position to the second, release position, spring 14 will be compressed,
20 whereafter stamp 12 will press out the product when the release position is reached.

This latter measure is however not specifically necessary for applying of the present invention, it merely forms an attractive additional measure.

25 Figure 2 shows how segments 5 are situated in their release position; protruding edges of the formed product do not represent problems here, thus resulting in a greater freedom in the design of products to be manufactured by this device.

30 It is noted herein that in the present embodiment there is a division into four segments. It is of course possible to make use of other numbers of segments. In order to keep the drive as simple as possible, the aim will be a small number of segments,
35 thus for instance two. In many cases, however, sufficient freedom is not obtained herewith for release of the formed products. Four is found to be an attractive number of segments.

As shown in figures 3 and 4, it is also possible to make use of a much larger number of segments. Use is made herein of a certain form of circle symmetry, so that despite the large number of segments use can be made of a simple drive. Figure 3 thus shows a top plate 4 in which a hole 7 is arranged, below which a cavity 6 is situated. Cavity 6 is enclosed by twelve segments 15 which are conical on their outside. These are enclosed by a ring 16 which is conical on its inner side. Ring 16 is movable in vertical direction, whereby segments 15 are moved toward each other into the position shown in figure 3.

When ring 16 is then moved downward as shown in figure 4, segments 16 are able to move outward. In the embodiment shown in Figures 3 and 4 the outward movement is achieved in that the segments are also provided on their inner side with a conical edge which is urged outward by a conical body 17 when this conical body 17 moves upward. It is of course a prerequisite here that the movements of conical body 17 and ring 16 are synchronized. Conical body 17 is further provided on its top with a stamp 18 for pressing out the finished product 19.

It will be apparent that other constructions can also be applied in the case of a large number of segments 15, for instance a construction wherein each of the segments 15 is urged inward or outward by means of a spring, and wherein the urging force in question is counteracted by a movement of a body.

The number of segments can of course also be greatly changed.

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25. 10. 2001

NEW CLAIMS

(59)

1. Device for forming a number of thin-walled objects by means of a blow-moulding process from a layer of material which is deformable when heated, comprising:

- a lower mould with cavities arranged therein,
 - 5 wherein the shape of each of the cavities corresponds with the external shape of the objects to be formed;
 - means for carrying the layer of material to be moulded onto the lower mould;
 - supply means for supplying gas to the upper
 - 10 side of the lower mould;
 - heating means for heating the lower mould;
- and

- mandrels movable into the cavities;
- wherein the lower mould is divided into at
- 15 least three segments placed around each cavity, wherein the separating planes between the segments extend substantially perpendicularly of the upper surface of the lower mould;

- wherein the segments are movable in
- 20 substantially radial direction between a first position, in which they form the wall of the cavity enclosed by the segments, and a second position in which an object formed in the cavity can be moved out of the mould, and

- wherein each of the segments is drivable for
- 25 movement between the first and second position by a drive member

characterized in that

- the movement between the first position and the second position is a linear movement; and
- 30 that each of the segments is coupled to a common drive element.

2. Device as claimed in claim 1, characterized in that the common drive element is adapted to execute a movement in a direction perpendicular to the direction of

10 4. Device as claimed in claim 3, characterized
in that the linear drive elements extend in the vertical
direction.

6. Device as claimed in claim 4, characterized
20 in that in each of the cavities is arranged a stamp which
is movable in vertical direction to eject the formed
objects.

AMENDED SHEET

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
15 March 2001 (15.03.2001)

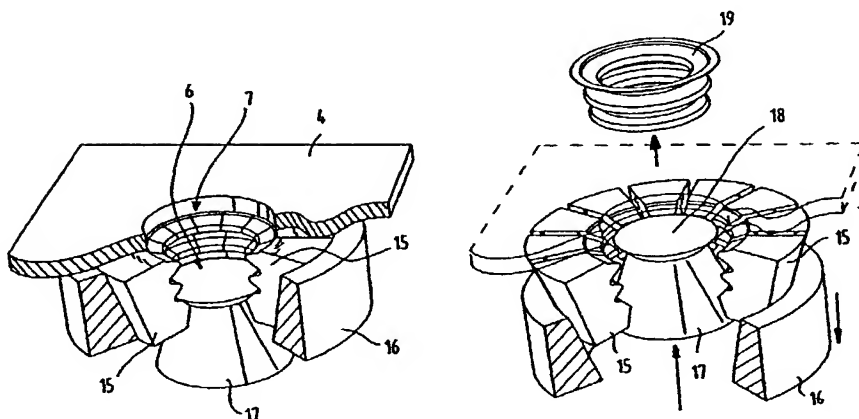
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- (51) International Patent Classification⁷: B29C 51/34 (74) Agent: EVELEENS MAARSE, Pieter; Arnold & Siedsma, Sweelinckplein 1, NL-2517 GK The Hague (NL).
- (21) International Application Number: PCT/NL00/00632
- (22) International Filing Date:
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- (71) Applicant (*for all designated States except US*): WEASY PACK INTERNATIONAL LTD. [MY/MY]; Brumby House, 1st Floor, Jalan Bahasa, F.T. LABUAN (MY).
- (72) Inventor; and
- (75) Inventor/Applicant (*for US only*): WILLEMSSEN, Louis, Rinze, Henricus, Adrianus [NL/NL]; Rijksweg 37, NL-4849 BM Dorst (NL).
- Published:
— With international search report.
— Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.

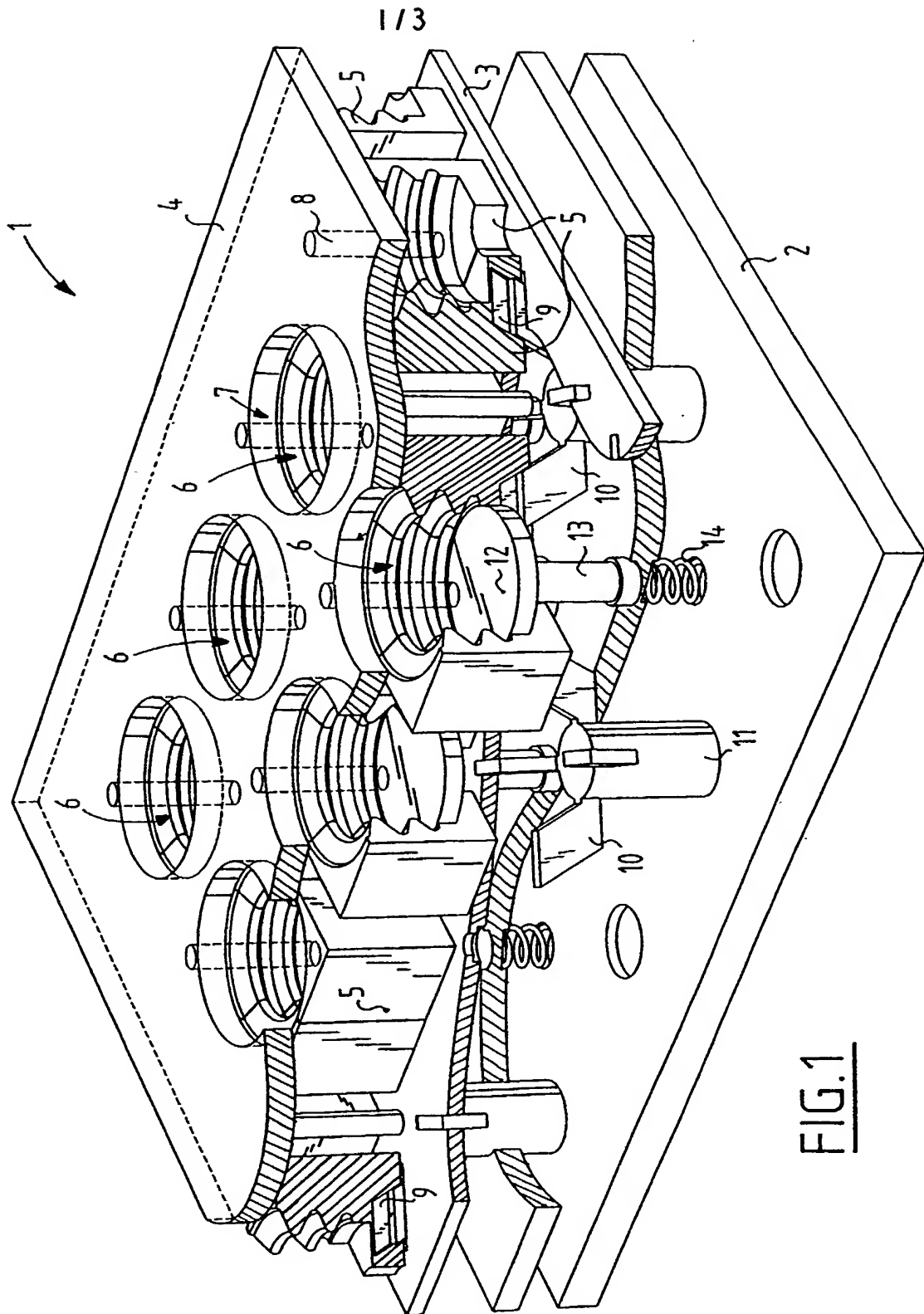
[Continued on next page]

(54) Title: RELEASING UNDERCUT MOULDED CONTAINERS AFTER A THERMOFORMING PROCESS



(57) Abstract: The invention relates to a device for forming a number of thin-walled objects by means of a blow-moulding process from a layer of material which is deformable when heated, comprising: a lower mould with cavities (6) arranged therein, wherein the shape of each of the cavities (6) corresponds with the external shape of the objects to be formed; means for carrying the layer of material to be moulded onto the lower mould; supply means for supplying gas to the upper side of the lower mould; heating means for heating the lower mould; and mandrels movable into the cavities, wherein the lower mould is divided into a number of segments (5), wherein a number of segments (5) is placed around each cavity and the segments are movable in substantially radial direction between a first position, in which they form the wall of the cavity enclosed by the segments (5), and a second position in which an object (19) formed in the cavity can be moved out of the mould.

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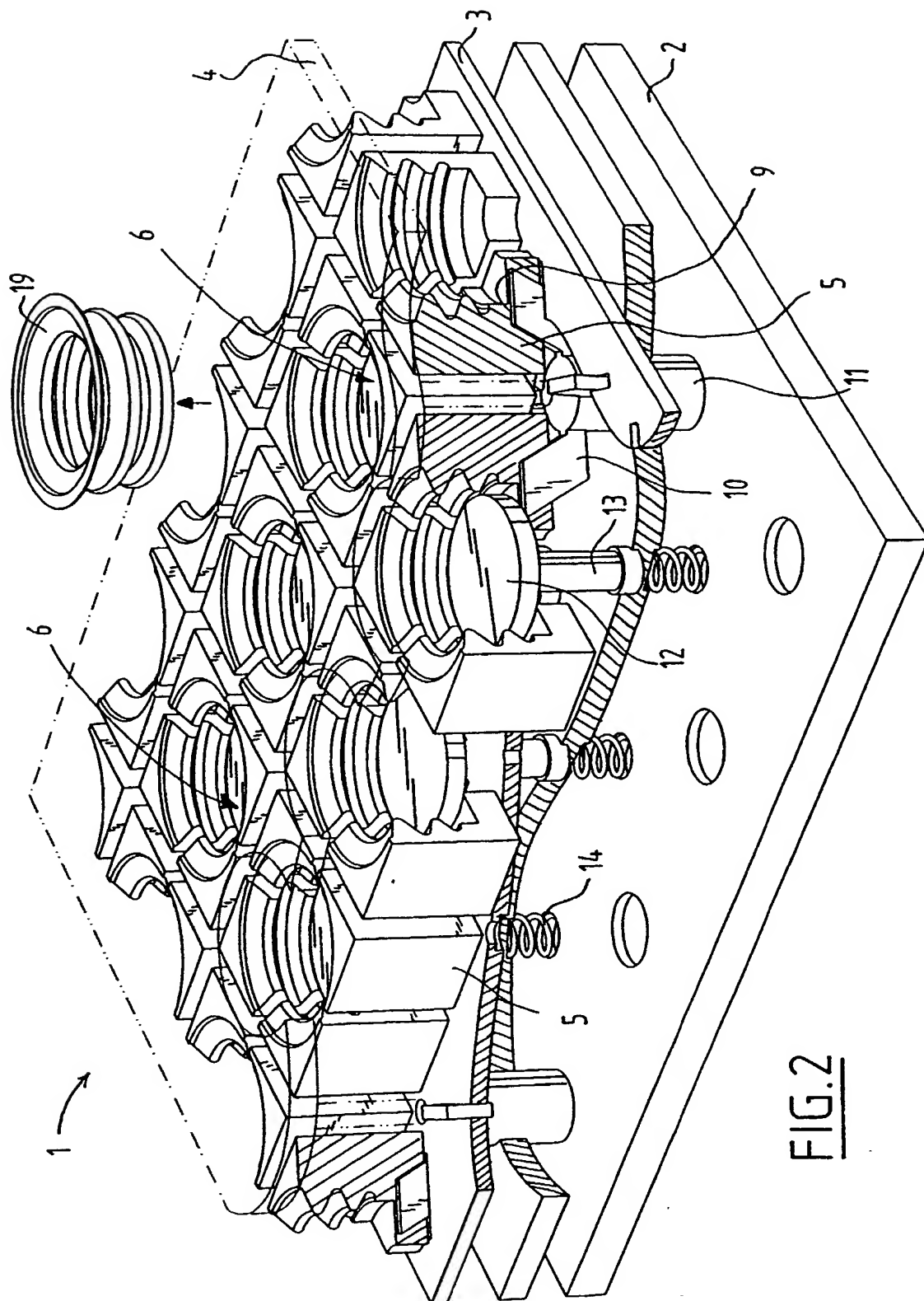


FIG. 2

3/3

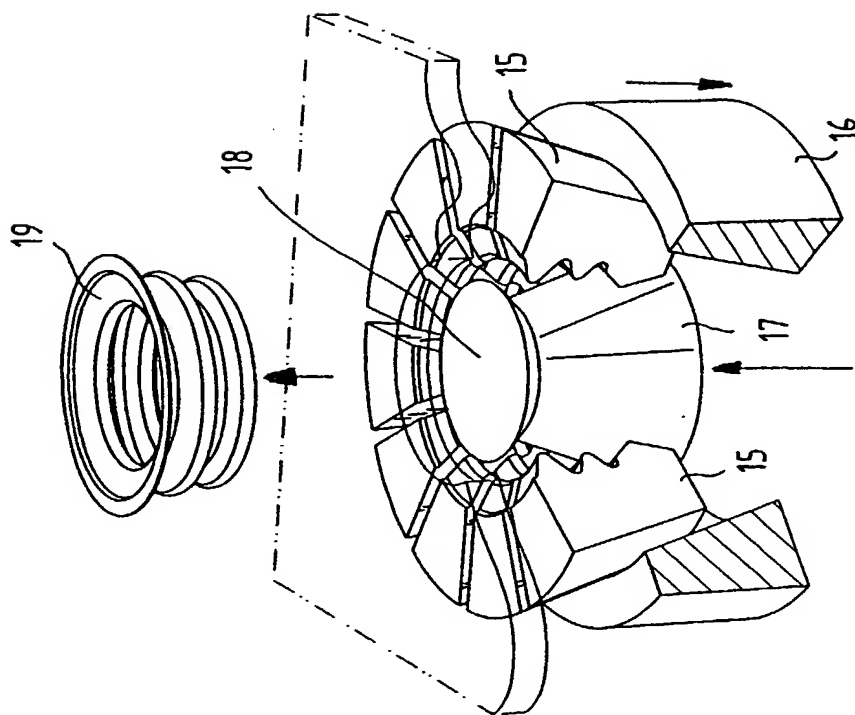


FIG. 4

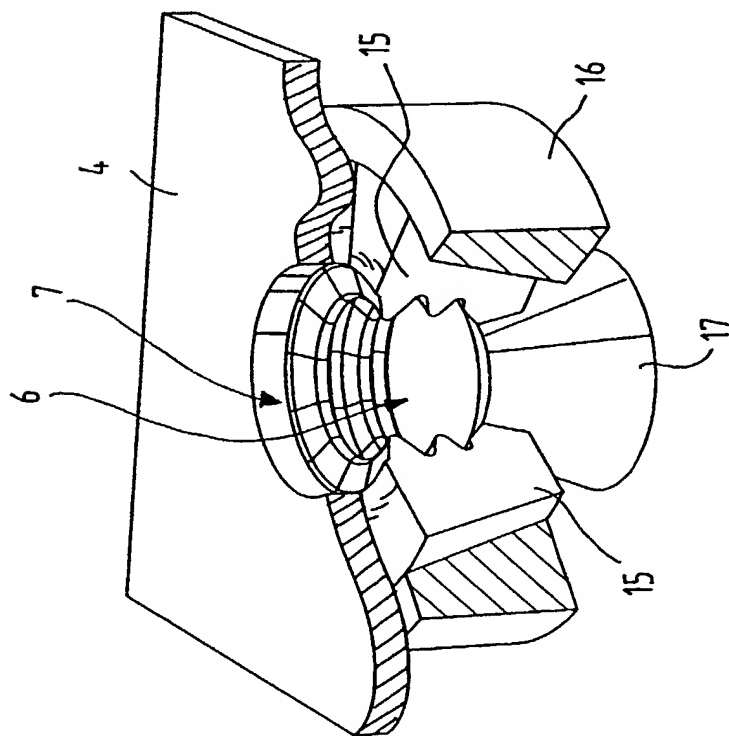


FIG. 3

Banner & Witcoff Ref. No.
Client Ref. No.

000771.00030
G/AE73/MvZ/2

SOLE DECLARATION FOR PATENT APPLICATION

As the below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I believe I am the original, first and sole inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled RELEASING UNDERCUT MOULDED CONTAINERS AFTER A THERMOFORMING PROCESS, the specification of which

- ☐ is attached hereto.
- ☒ was filed on March 6, 2002 as Application Serial Number 10/070,390 and was amended on March 6, 2002 (if applicable).
- ☒ was filed under the Patent Cooperation Treaty (PCT) and accorded International Application No. PCT/NL00/00632, filed September 8, 2000, and amended on October 24, 2001 (if any).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I hereby acknowledge the duty to disclose information which is material to patentability in accordance with Title 37, Code of Federal Regulations, §1.56(a).

Prior Foreign Application(s)

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application(s) for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Country	Application No.	Date of Filing (day, month, year)	Date of Issue (day, month, year)	Priority Claimed Under 35 U.S.C. §119
Netherlands	1013002	8 September 1999		yes

Prior United States Provisional Application(s)

I hereby claim priority benefits under Title 35, United States Code, §119(e)(1) of any U.S. provisional application listed below:

U.S. Provisional Application No.	Date of Filing (day, month, year)	Priority Claimed Under 35 U.S.C. §119(e)(1)

Prior United States Application(s)

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

Application Serial No.	Date of Filing (Day, Month, Year)	Status: Patented, Pending, Abandoned

Banner & Witcoff Ref. No. 000771 00030
Client Ref. No. C/AE73/MvZ/2

Power of Attorney

And I hereby appoint, both jointly and severally, as my attorneys, all Banner & Witcoff, Ltd. attorneys indicated therein under PTO Customer Number #22907, with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office.

All correspondence and telephone communications should be addressed to:

Banner & Witcoff, Ltd.

Customer Number: 22907 (WDC)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

1-20 Signature [Signature] Date 3 July 2002
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